Midnite Mine

May 13 and 14, 2019

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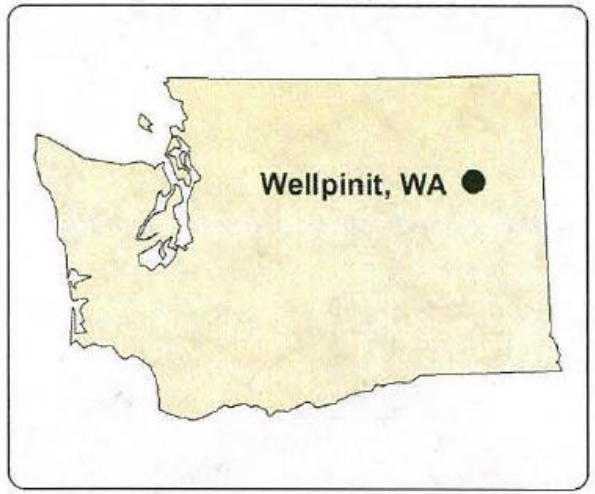
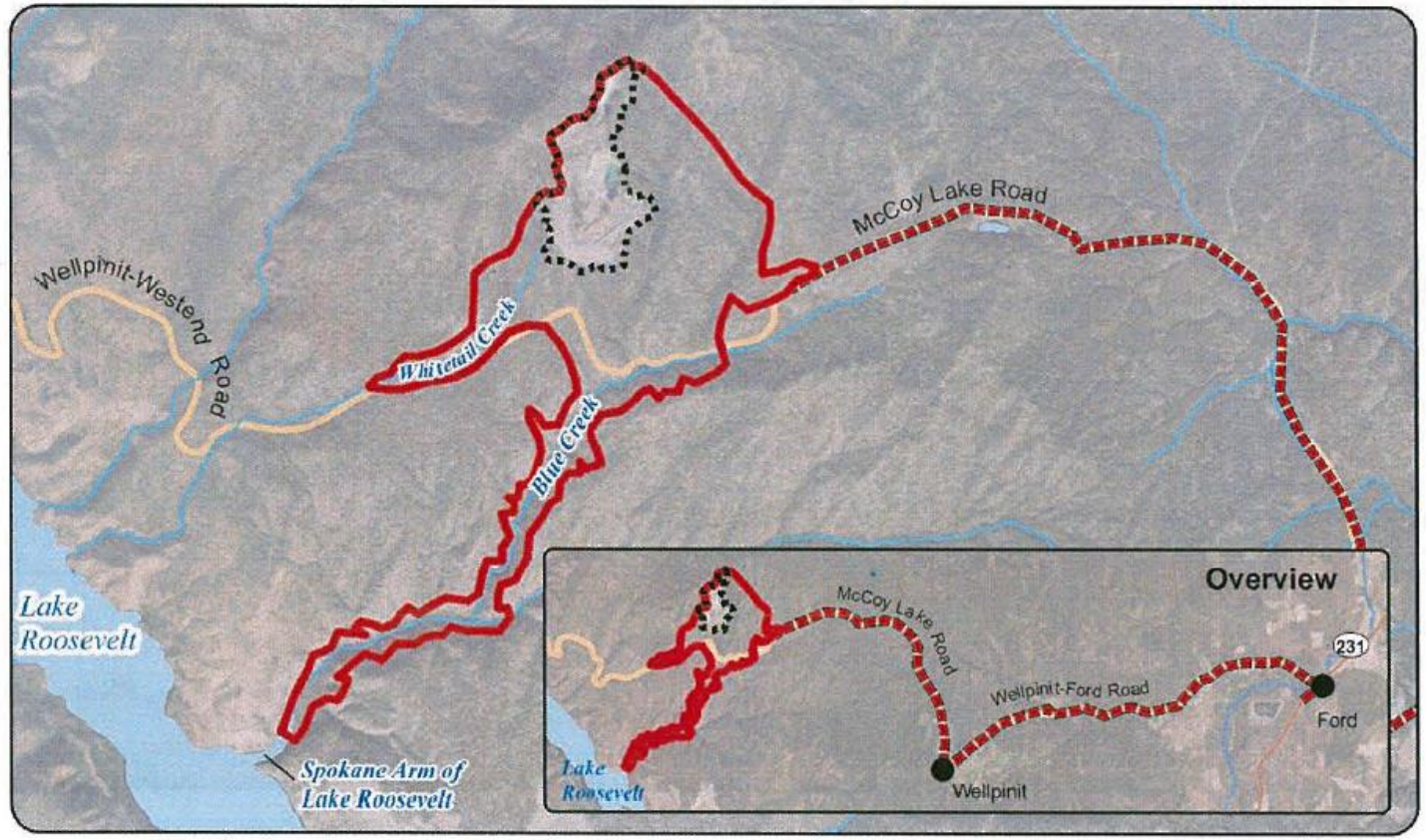
U.S. Environmental Protection Agency

Today's presentation:

- Background
- Steps in the Superfund Cleanup Process
- Five Year Review Findings
- Remedial Action Implementation
- EPA Oversight
- Follow-up from February meeting in Spokane


Wellpinit, WA


Colville Reservation
Spokane Indian Reservation
Lake Roosevelt
Midnite Mine Superfund Site
Spokane
395
2
2
90
195


McCoy Lake Road
Wellpinit-Westend Road
Whitetail Creek
Blue Creek
Lake Roosevelt
Spokane Arm of Lake Roosevelt
Overview
McCoy Lake Road
Wellpinit-Ford Road
231
Ford
Lake Roosevelt
Wellpinit

Uranium Hard Rock Mining

- The Midnite Mine is an open-pit mine
  - Over 33 million tons of rock were blasted to access uranium ore
  - Site contaminants include:
    - radium-226
    - lead-210
    - uranium-234
    - uranium-238
  - High sulfate levels indicate that acid rock drainage is being formed

Pit 3

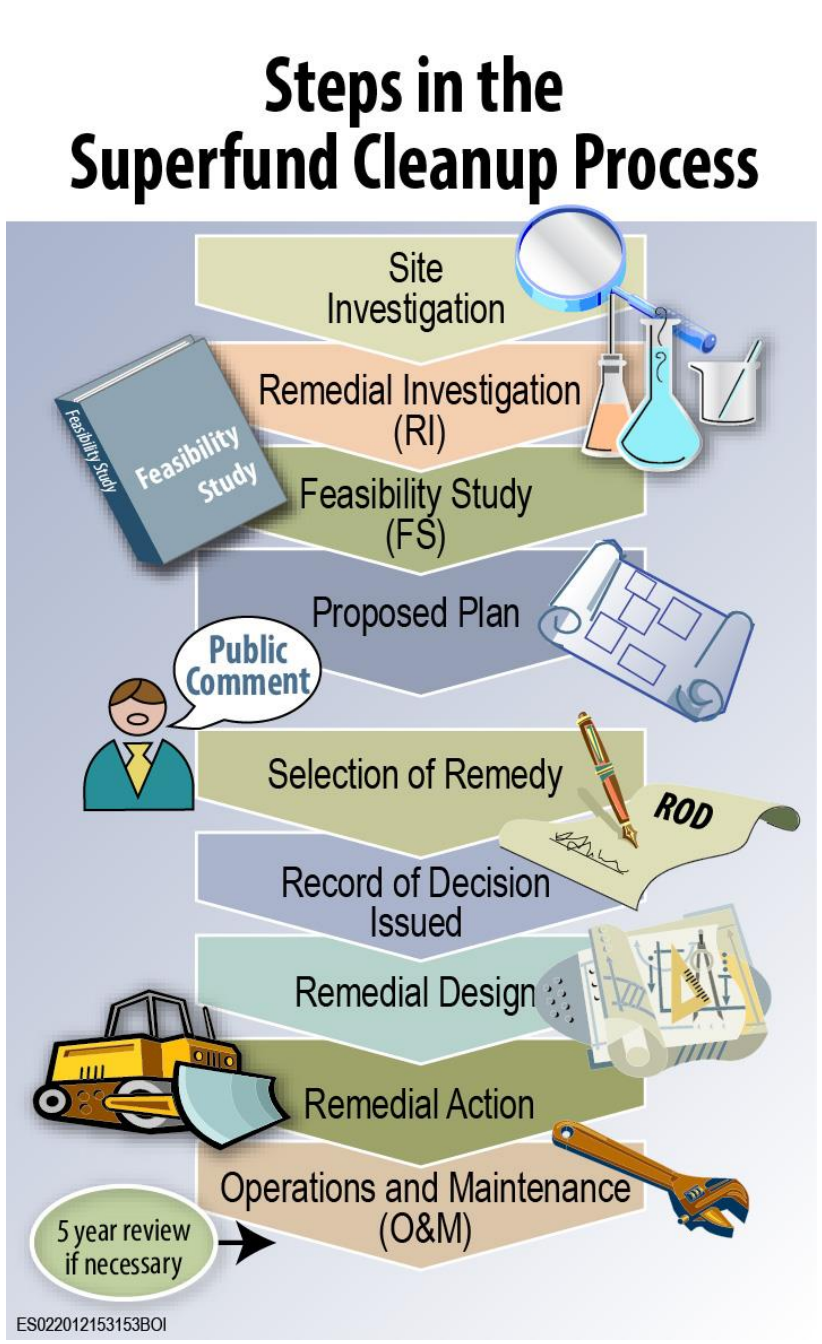
Open Pit Mining

- Open-pit mines are typically dug on benches(narrow strips of land cut into the side of an open pit mine)
- Most walls are dug on an angle to protect from rock falls
- A haul road is usually situated at the side of the pit, forming a ramp up which trucks can carry ore and waste rock

Pit 4

Site Conditions

- Mining at the site caused:
  - Acid rock drainage
    - Contaminants carried into surface water and ground water
  - Radon gas
  - Radiation from exposed uranium-bearing rock
- Areas have been fenced off since 2009 to keep out large animals
- Surface water is being treated to remove uranium, radium and heavy metals



Superfund process and community involvement at Midnite Mine:

1999 – Proposed adding site to the National Priorities List (NPL)

- 60 day public comment period
- Community Interviews and Community Involvement Plan (updated in 2012 and 2015)

2005 – Remedial Investigation and Feasibility Study

2005 – Proposed Plan to cleanup the site

- Public Comment period – extended to 105 days
- Community meetings, public hearing

2006 – Record of Decision issued

- Updated the Community Involvement Plan

2015 – Remedial Design

- 2012-2015 – Information kiosks, community meetings, TASC facilitated workshops to support community feedback

2016-ongoing – Remedial Action (where we are now)

2014 & 2019 – Ongoing five year reviews

Operation & Maintenance

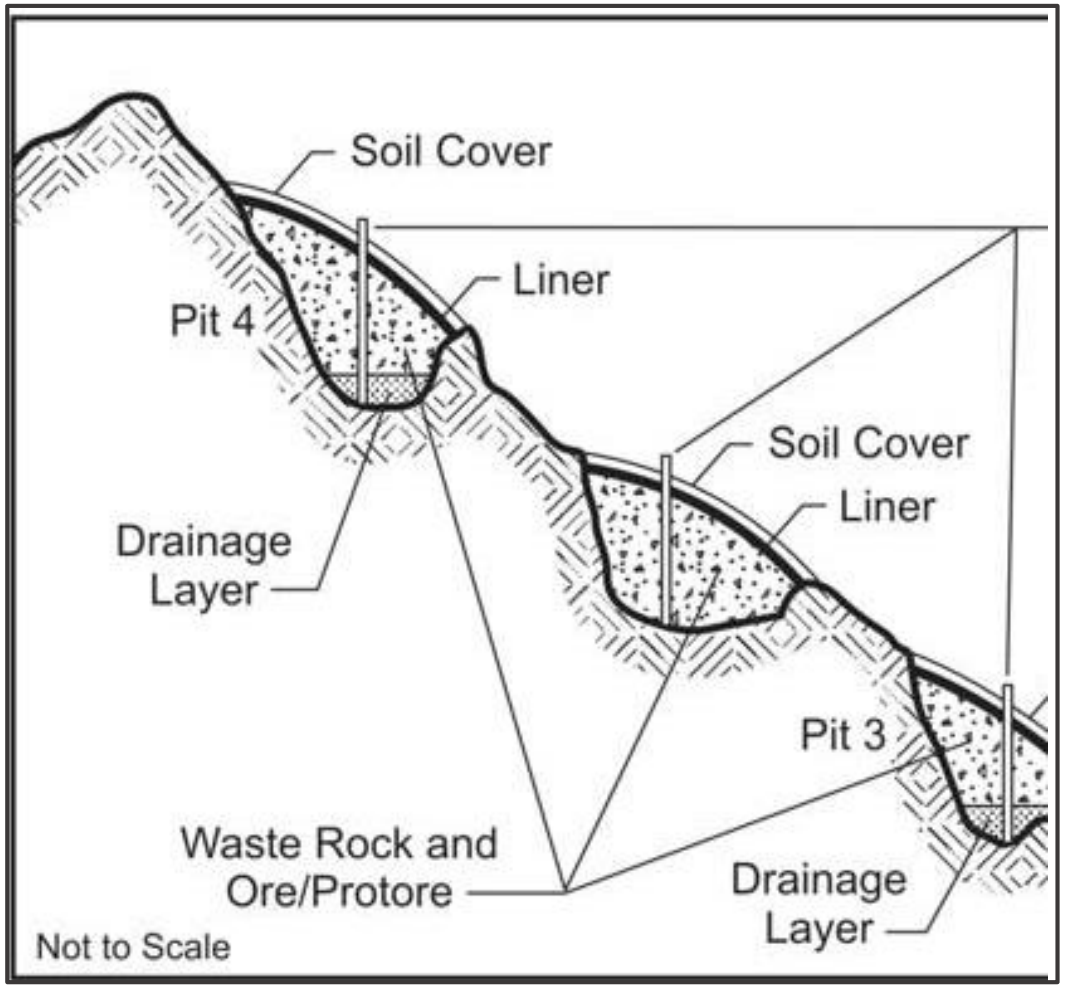
Record of Decision

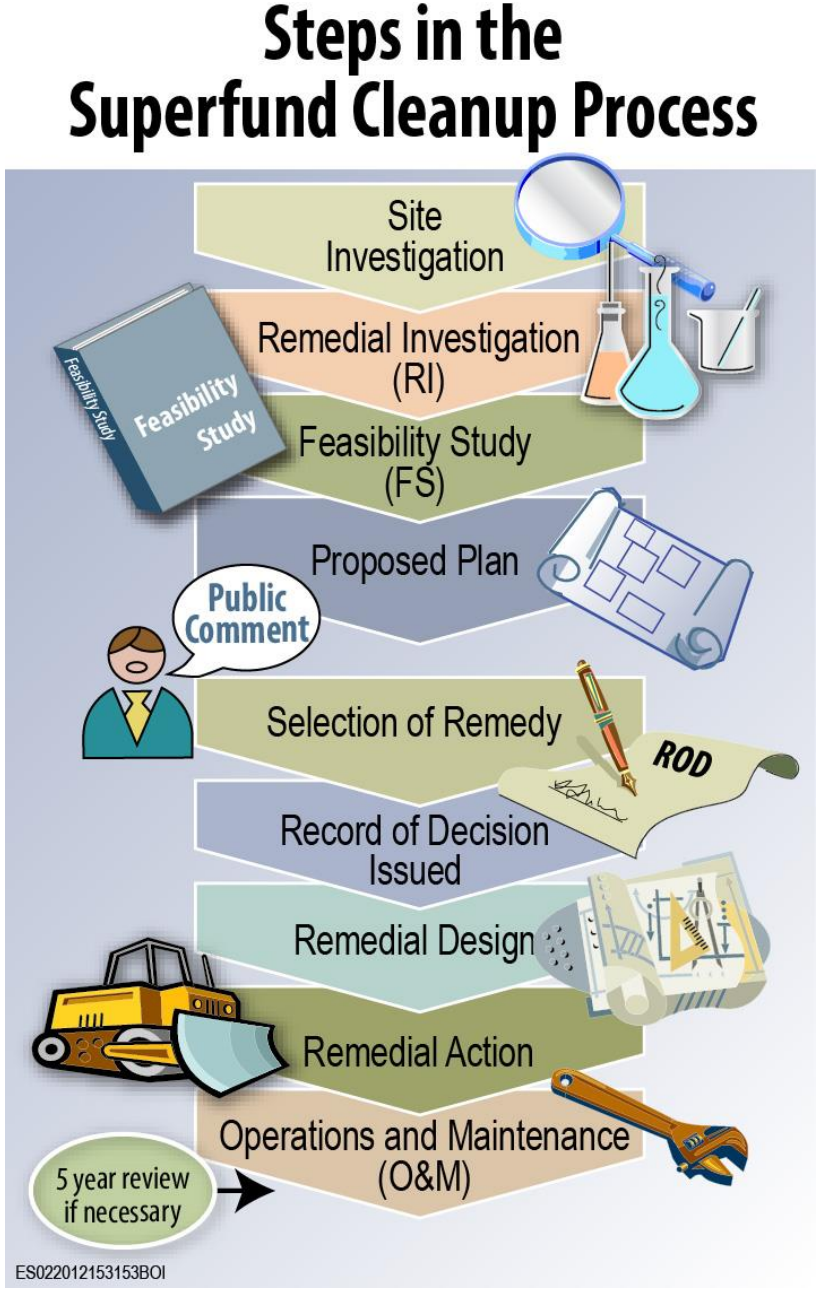
- Contain mine waste in the mine pits with sumps, wells, drainage layers, liners, soil cover and vegetation
- Collect and treat mine-affected water at a new water treatment plant
  - Treated water piped to the Spokane River Arm of Lake Roosevelt
- Natural recovery of Blue Creek unless later sampling shows active cleanup is needed
- Natural recovery of ground water
- Prohibit use of ground water until it is clean enough
- A boulder barrier to keep vehicles away from waste containment areas

Preventing Acid Rock Drainage

Cover Waste Rock

- Installing a cover of clay, plastic or soil over piles of waste rock:
  - prevents rain and other precipitation from contributing to ARD formation and transport
  - reduces the amount of oxygen available to react with the sulfide minerals





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Operation & Maintenance

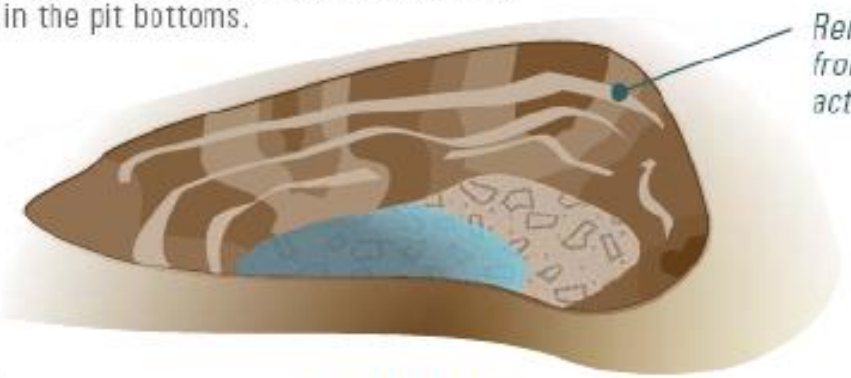
Main Elements of the Midnite Mine Cleanup

REMEDIAL DESIGN:

Prepare engineering plans and technical specifications for the Remedial Action

EARTHWORK:

Prepare the two open pits for consolidation of mine waste rock by removing contaminated water and sediments and placing a layer of drain rock and liner in the pit bottoms.



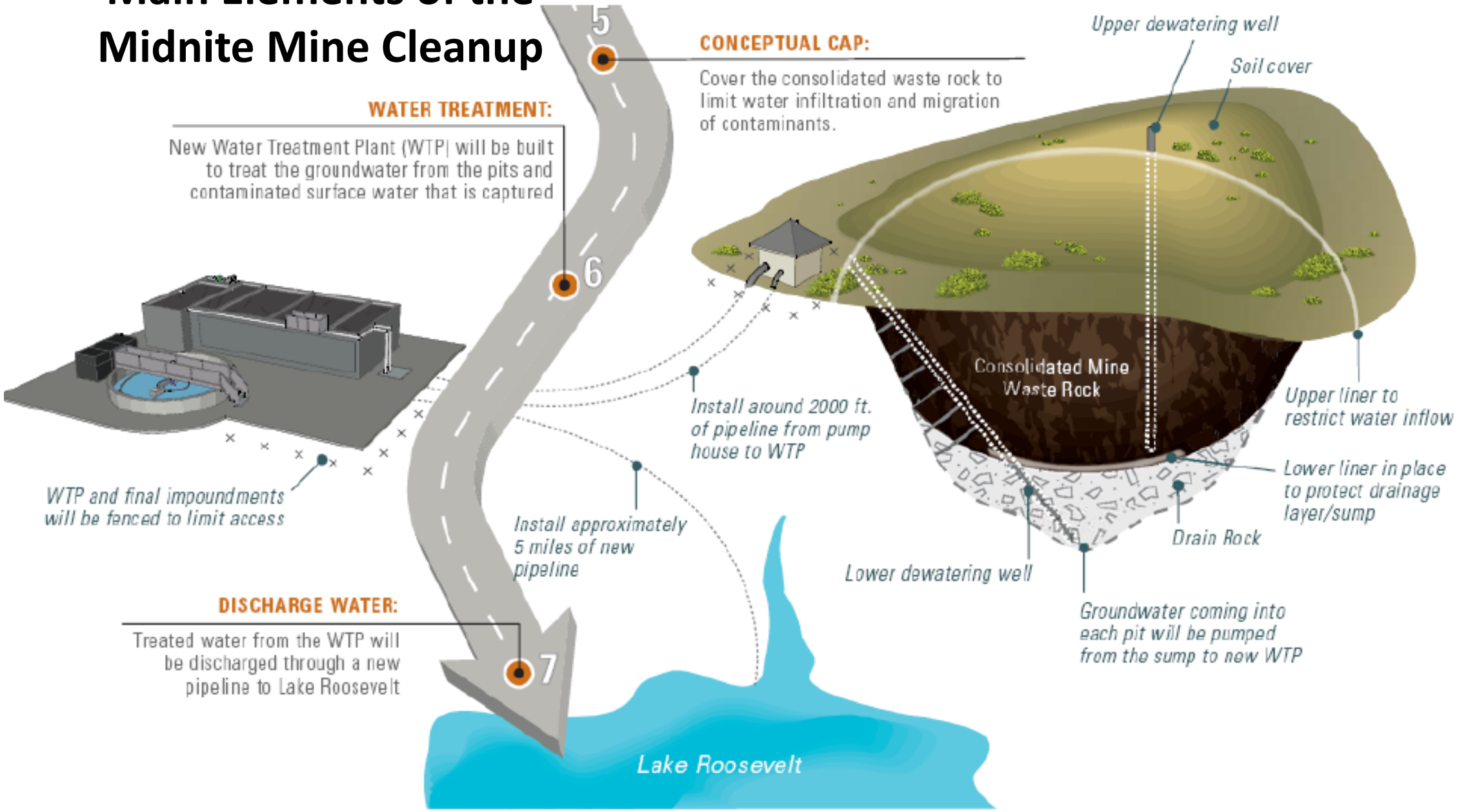
BACKFILL:

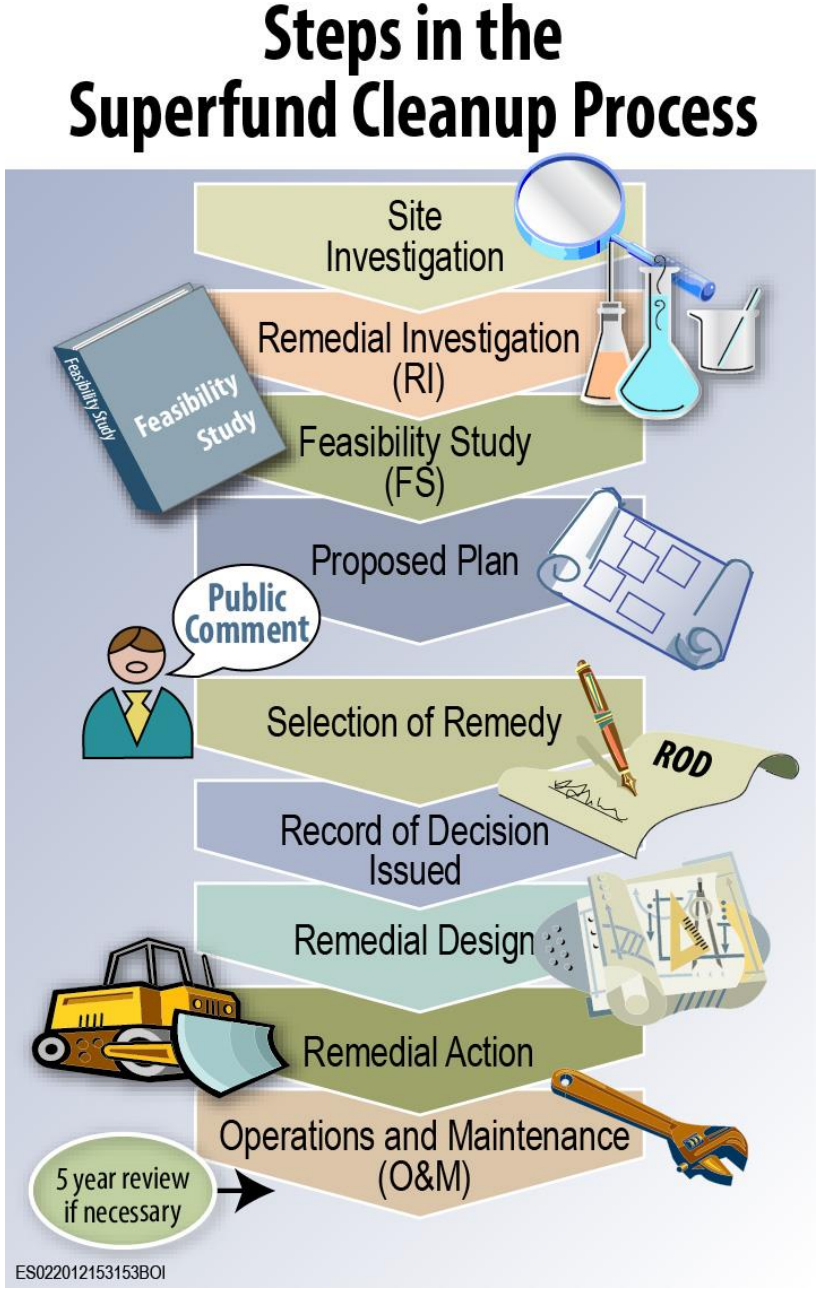
Consolidate the mine waste rock in the lined pits.

EXCAVATION:

Excavate approximately 18 million cubic yards of mine waste rock, protore, and contaminated soils and sediments from the remnant waste rock piles, access roads, and drainages.

Main Elements of the Midnite Mine Cleanup





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Operation & Maintenance

Remedial Action Implementation

- Design plans and specifications
- Reports
- Field oversight


Current satellite view
of the Midnite Mine
from Google maps

Pre-season Plan Review

- Modifications to 2018 plans to update work for this season
- Emergency Response Plan
- Health and Safety Plan
- Radiation Protection Plan
- Storm Water Control Plan
- Other plans (lunchroom relocation, wood waste chipping and disposal)

Newmont Reports

- Weekly construction report (www.epa.gov/superfund/midnite-mine)
- Monthly construction report (available on epa.gov)
- Quarterly air monitoring report
- Monthly NPDES (water discharge permit) report
- Revisions to design – Request for information (RFI)
- 2018 Annual Summary Report (available on epa.gov)
- Site wide environmental monitoring report

Annual Report for 2018

- Major activities accomplishments
- Pit 4 lined and wells installed
- East drainage trench installed
- Independent Access Roads

2019 Work Season

- Design of Water Treatment Plant
- Removal of 2 million cubic yards of waste rock into Pit 4
- Construct surface impoundment for water management
- Relocate Lunchroom
- Chip wood waste
- Dewater pit 3

EPA Oversight

- Ensure project implementation is in accordance with plans and specification
- BMPs (Best Management Process) are adhered to
- Documentation of oversight

Findings in the Second Five-Year Review

- The remedy is functioning as intended
- Institutional Controls still required
- Monitoring reports include trend analysis
- Site information repository is closed – working to reestablish
- Community has asked for more site-related information

Questions?

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